

- 1 1. A method for making a connection for composite pipe comprising:  
2 attaching a connector having at least one trap to a liner portion of a segment of  
3 composite pipe, the pipe comprising a plurality of filament fibers wound around the liner;  
4 winding the plurality of filament fibers across the connector, wherein tension is  
5 continuously maintained on the filament fibers across the at least one trap;  
6 compressing the plurality of filament fibers over the at least one trap; and  
7 curing a binder which impregnates the filament fiber.
- 1 2. The method as defined in claim 1 wherein the fibers initially bridge the at least  
2 one trap.
- 1 3. The method as defined in claim 1 wherein the compressing comprises wrapping  
2 the fibers proximate the at least one trap with a fiber hoop wrap.
- 1 4. The method as defined in claim 3 wherein the fiber hoop wrap comprises a  
2 material having a negative coefficient of thermal expansion.
- 1 5. The method as defined in claim 1 further comprising wrapping the trap area with  
2 heat shrinkable tape and heating the tape.
- 1 6. The method as defined in claim 2 wherein the connector comprises a plurality of  
2 traps, the filament fibers wound under tension so that each of the traps is initially bridged  
3 by the filament fibers.
- 1 7. The method as defined in claim 6 further comprising compressing the filament  
2 fibers in each of the traps prior to curing the binder.
- 1 8. The method as defined in claim 7 wherein the compressing comprises wrapping  
2 the fibers in each of the traps with a fiber hoop wrap.

- 1 9. The method as defined in claim 6 wherein each of the hoop wraps has an elastic  
2 modulus related to its position with respect to an end of the connector.
- 1 10. The method as defined in claim 6 wherein a flank angle of each trap is related to  
2 the position of each trap with respect to an end of the connector.
- 1 11. The method as defined in claim 6 wherein a depth of each trap is related to the  
2 position of each trap with respect to an end of the connector.
- 1 11 The method as defined in claim 6 wherein a wall thickness of the connector  
2 below each trap is related to the position of each trap with respect to the end of the  
3 connector.
- 1 12. The method as defined in claim 6 wherein a width of each trap is related to the  
2 position of each trap with respect to an end of the connector.
- 1 13. An connector for joining a segment of composite pipe comprising:  
2 an end connector having at least one fiber trap on an outer surface thereof, the end  
3 connector attached to a liner portion of the segment of composite pipe;  
4 fibers forming an outer surface of the segment of composite pipe, the fibers  
5 wound around the at least one trap under tension; and  
6 a binder which impregnates the fibers, the tension being maintained on the fibers  
7 in the trap during cure of the binder.
- 1 14. The connector as defined in claim 13 wherein the further comprises a fiber hoop  
2 wrap wound around the fibers in the trap to compress the fibers therein.
- 1 15. The connector as defined in claim 14 wherein the fiber hoop wrap comprises a  
2 material having a negative coefficient of thermal expansion.

1 16. The connector as defined in claim 13 further comprising heat shrinkable tape  
2 wrapped in the trap area.

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2 17. The connector as defined in claim 13 wherein the connector comprises a plurality  
3 of traps.

1 18. The connector as defined in claim 17 wherein the fibers in each of the traps is  
2 covered with a fiber hoop wrap.

1 19. The connector as defined in claim 17 wherein each of the hoop wraps has an  
2 elastic modulus related to its position with respect to an end of the connector.

1 20. The connector as defined in claim 17 wherein a flank angle of each trap is related  
2 to the position of each trap with respect to an end of the connector.

1 21. The connector as defined in claim 17 wherein a depth of each trap is related to the  
2 position of each trap with respect to an end of the connector.

1 22. The connector as defined in claim 12 wherein a connector wall thickness below  
2 each of the traps is related to a position of each trap with respect to the end of the  
3 connector.

1 23. The connector as defined in claim 17 wherein a width of each trap is related to the  
2 position of each trap with respect to an end of the connector.